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Precision™ Instruction Manual

TS-69240-AM-9

SOLID STATE TIME-IT

INTRODUCTION

Your satisfaction and safety are important to GCA/PRECISION SCIENTIFIC, and a complete understanding of this unit is necessary to attain these objectives.

As the ultimate user of this apparatus, it is your responsibility to understand its proper function and operational characteristics. This instruction manual should be thoroughly read and all operators given adequate training before attempting to place this unit in service. Awareness of the stated cautions and warnings, and compliance with recommended operating parameters--together with maintenance requirements--are important for safe and satisfactory operation. The unit should be used for its intended application; alterations or modifications will void the Warranty.

> WARNING: Always wear safety glasses when working with this apparatus.

This product is not intended, nor can it be used, as a sterile or patient connected device. In addition, this apparatus is not designed for use in Class I, II, or III locations as defined by the National Electrical Code.

UNPACKING AND DAMAGE

Save all packing material if instrument is received damaged. This merchandise was carefully packed and thoroughly inspected before leaving our factory. Responsibility for its safe delivery was assumed by the carrier upon acceptance of the shipment; therefore, claims for loss or damage sustained in transit must be made upon the carrier by the recipient as follows:

Visible Loss or Damage: Note any external evidence of loss or damage on the freight bill, or express receipt, and have it signed by the carrier's agent. Failure to adequately describe such external evidence of loss or damage may result in the carrier's refusing to honor your damage claim. The form required to file such a claim will be supplied by the carrier.

Concealed Loss or Damage: Concealed loss or damage means loss or damage which does not become apparent until the merchandise has been unpacked and inspected. Should either occur, make a written request for inspection by the carrier's agent within 15 days of the delivery date; then file a claim with the carrier since the damage is the carrier's responsibility.

By following these instructions carefully, we guarantee our full support of your claim to be compensated for loss from concealed damage.

DO NOT -- FOR ANY REASON -- RETURN THE INSTRUMENT WITHOUT FIRST OBTAINING AUTHORIZATION . In any correspondence to GCA/PRECISION SCIENTIFIC, please supply the nameplate data, including catalog number and serial number.

GENERAL INFORMATION

These instructions encompass the model listed below with its specific electrical characteristics:

Catalog No.	Description	Voltage	Hertz
69240	Time-It	115	60
69242	Foot Switch (accessory)		

EXPLANATION OF CONTROLS:

1. "POWER ON" is a pushbutton control located in the upper right-hand corner. Its function is to control electrical power to the Time-It.

2. "RESET" is the pushbutton that resets the Time-It back to zero when depressed. It will reset to zero when operating in the "second" or "minute" mode.

3. "START/STOP" is a push bar control which is used to start or stop the Time-It with each depression of the lever.

4. "MIN./SEC." is located to the right of "RESET" and is used in setting the mode of the display.

INSTALLATION

Electrical Connections: Important (Please Read Carefully)

The Time-It's power supply is equipped with a two-prong plug which mates with a standard three-prong (grounding) wall receptacle.

To install the Time-It, Cat. No. 69240, it is necessary to plug the power supply into an A.C. outlet furnishing 115 volts, 60 Hz. To install the accessory "foot switch", Cat. No. 69242, connect the male plug (located at the cord's end) into the receptacle located on the bottom of the Time-It.

Determine the total amount of current presently being used by other apparatus connected to the circuit that will be used for this unit. It is critical that the added current demand and other equipment on the circuit not exceed the rating of the fuse or circuit breaker, in use.

> CAUTION: Be sure that the power supply is of the same voltage as specified on the nameplate.

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OPERATION

1. Press "POWER ON" button.
2. Press "RESET" button.
3. Check display (Fig. A & B).
4. Select unit of time by pressing "MIN./SEC." button.
5. Press "RESET" button.
6. Press "START/STOP" bar, once to start.
7. Press "START/STOP" bar (while running) once, to stop it.
8. Record time.
9. Press "RESET" button and start again.

> CAUTION: Be careful not to hit the "MIN./SEC." button or "RESET" button while the Time-It is running, or the time will be lost. To stop it, use the "STOP/START" lever. Serious damage may result on the printed circuit board.

Explanation of Display

After the power connection is made and the "LED" is lit, press "RESET" and the following displays should appear.

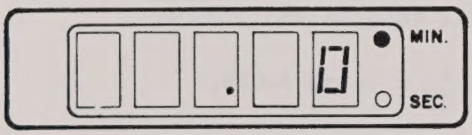


FIG. A

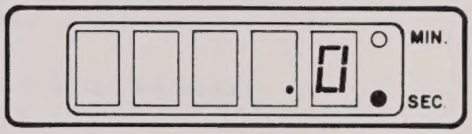


FIG. B

When the "MIN./SEC." button is in the minute mode (Fig. A), the display is up to five digits. Two digits to the right of the decimal points are in hundredths of actual minutes. The three digits to the left of the decimal point are actual minutes. The display in Figure A accumulates from 0.01 minutes up to 999.99 minutes.

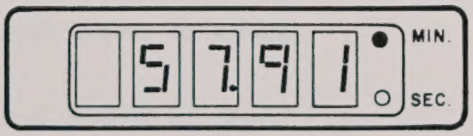


FIG. C

OPERATION (Contd.)

Figure C is 57.91 minutes. In order for the user to get elapsed time in seconds, he must convert it manually.

NOTE: Switching to the "second" mode will not convert the display into seconds.

$$57.91 \text{ min.} \times \frac{60 \text{ secs.}}{\text{min.}} = 3{,}474.6 \text{ secs.}$$

or 57 minutes and 55 seconds

When the "MIN./SEC." button is in the second mode (Fig. B), the display is up to five digits. The digit to the right of the decimal is in tenths of actual seconds. The four digits to the left of the decimal point are actual seconds. The display in Figure B accumulates from 0.1 seconds to 9,999.9 seconds.

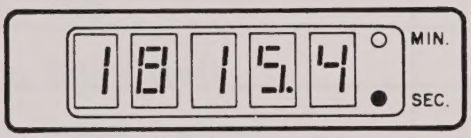


FIG.D

Figure D is 1,815.4 seconds. In order for the user to get elapsed time in minutes, he must convert it manually.

NOTE: Switching to the "minute" mode will not convert the display into minutes.

$$1{,}815.4 \text{ secs.} \times \frac{1}{60} \text{ min./sec.} = 30.25 \text{ minutes}$$

or 30 minutes and 15 seconds

Other units of time can be calculated in the following way:

x = total number of seconds.

$\frac{x}{60}$ = total number of minutes.

$\frac{x}{3600}$ = total number of hours.

$\frac{x}{86400}$ = total number of days.

$\frac{x}{31{,}536{,}000}$ = total number of years.

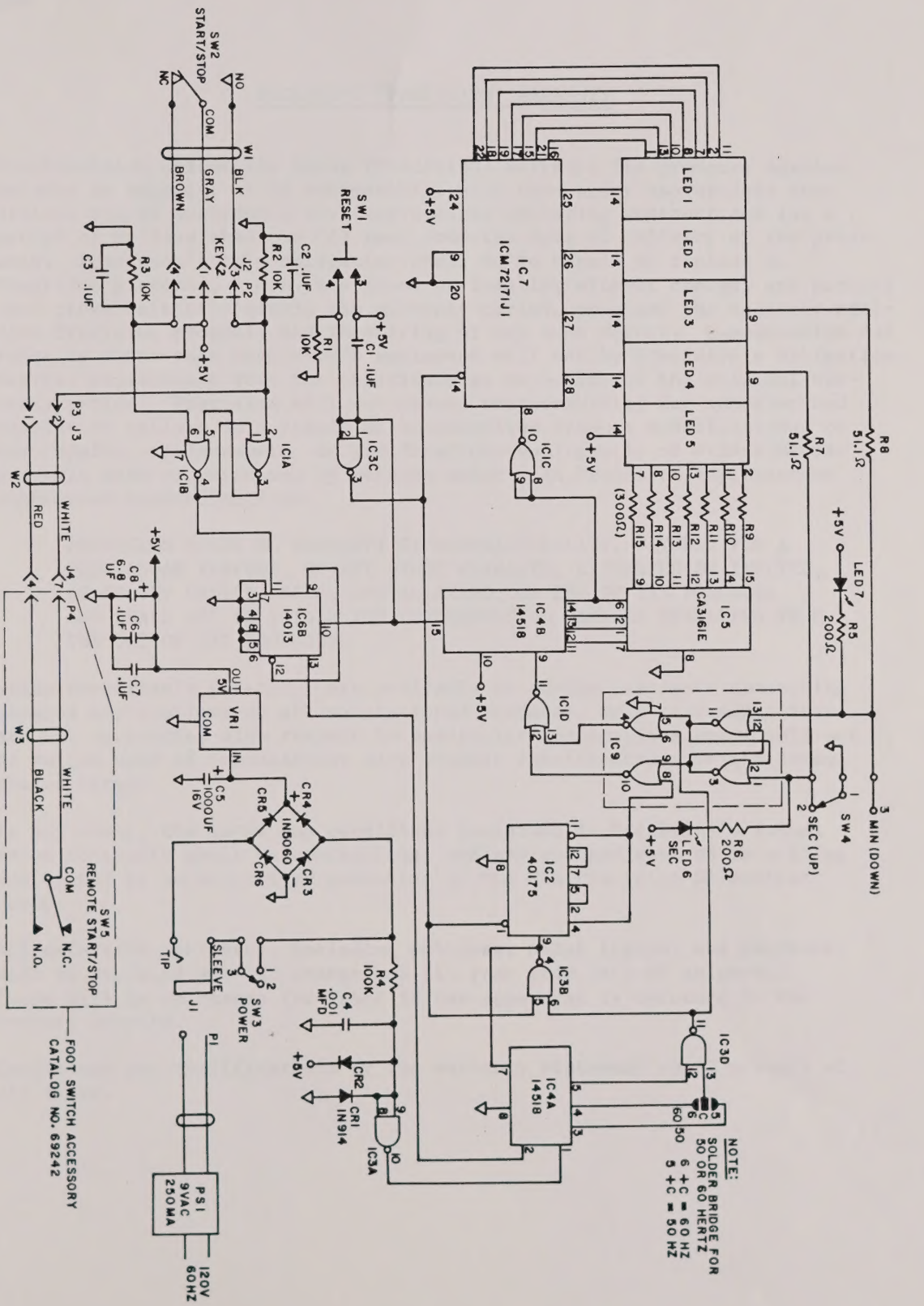
PARTS LIST

TIME-IT

SYMBOL	DESCRIPTION	QTY.	CATALOG NO.
PSI	Power Supply 9 VAC	1	225225
PCB	Printed Circuit Board	1	00889101
SW1	Switch, SPST	1	240429
	Lens, Switch (white)	1	240432
SW3 & 4	Switch, SPDT	1	240430
	Lens, Switch (red)	1	240431
	Lens, Switch (yellow)	1	240433
SW2 & 5	Switch, SPDT	1	240301
LED1,2,3,4,5	Display, LED, 7 Seg. Com. Anode	1	234192
LED6 & 7	Lamp, LED 1-3/4	1	234191

Accessory:

Foot Switch	69242



WIRING DIAGRAM

TIME-IT

EXCLUSIVE "PRECISION" WARRANTY

GCA/Precision Scientific Group (Precision) warrants its products against defects in material or in workmanship, when used under appropriate conditions and in accordance with appropriate operating instructions for a period of no less than one (1) year from the date of delivery of the products. Precision's sole obligation shall be to repair or replace at Precision's option, F.O.B. its plant or locally, without charge, any part(s) that prove defective within the warranty period, provided the customer notifies Precision promptly and in writing of any such defect. Compensation for labor by other than Precision's employees will not be Precision's obligation. Part(s) replacement does not constitute an extension of the original warranty period. Precision will not assume responsibility for unauthorized repairs or failure as a result of unauthorized product modifications, or for repairs, replacements, or modifications negligently or otherwise improperly made or performed by persons other than Precision employees or authorized representatives.

> PRECISION MAKES NO WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, AS TO THE DESIGN, SALE, INSTALLATION, OR USE OF ITS PRODUCTS, AND SHALL NOT BE LIABLE FOR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF ITS PRODUCTS.

While Precision's personnel are available to advise customers concerning general applications of all manufactured products, oral representations are not warranties with respect to particular applications and should not be relied upon if inconsistent with product specifications or the terms stated herein.

In any event, the terms and conditions contained in Precision's formal sales contracts shall be controlling; and any changes must be in writing and signed by an authorized executive of the GCA/Precision Scientific Group.

All defective cabinetry, including switches, pilot lights, and hardware, will be replaced without charge one (1) year from date of shipment. There will be no charge for labor if the apparatus is returned to the factory prepaid.

Conditions and qualifications of the warranty statement shall prevail at all times.

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